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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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EXAMINER

SHAW, CLIFFORD C

ART UNIT

PAPER NUMBER

1725

7

DATE MAILED: 07/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/091,278

Applicant(s)

HSU, CHRISTOPHER

Examiner

Clifford C Shaw

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 20-23 is/are allowed.
- 6) ☒ Claim(s) 1, 5, 6, 13-18, 24-28, 32, 33, 40-45, and 47-50 is/are rejected.
- 7) ☒ Claim(s) 2-4, 7-12, 19, 29-31, 34-39, 46 and 51-54 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) ____
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 6) ☐ Other:

Detailed Action

1.) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2.) Claims 1, 5, 6, 13-15, 18, 28, 32, 33, 40-42, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rygiol (3,781,511) taken with Tabata et al. (5,416,299). The patent to Rygiol discloses a welding power supply wherein a counter shifts the power supply output between first and second welding waveforms wherein one of the waveforms is lower energy than the other (see the waveforms of the power supply outputs in figures 1 and 4, note the power supply circuitry in figure 7 and the discussion of a counter arrangement in column 9, line 60 through column 10, line 10). The claims differ from Rygiol in calling for a high speed switching power supply. This difference does not patentably distinguish over the prior art. At the time applicant's invention was made, it would have been obvious to have used any well known type of power supply in the system of Rygiol. In particular, it would have been obvious to have used a high speed switching power supply, the motivation being the teachings of Tabata et al. that such is advantageous for a controlled waveform output (see elements 1, 2, and 89 in figure 9 of Tabata et al.).

3.) Claims 1, 16, 17, 28, 43, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terayama et al. (5,220,151). Figures 3 and 8-14 and the discussion at columns 16-27 disclose a welder with controlled positive and negative polarity waveforms and including counter at elements CNT1, CNT2 as claimed. The claims differ from Terayama et al. in calling for GMAW welding. This difference does not patentably distinguish over the prior art. It would have been obvious to have used the arrangement of Terayama et al. for any well known type of welding, including GMAW, the motivation being to secure the advantages of the Terayama et al. power supply for GMAW, thereby satisfying the claims.

4.) Claims 24-27 and 47-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tabata et al. (5,416,299). In its figures 2b and 9 and the discussion at its columns 10-15, the patent to Tabata et al. discloses a welder that alternates between a pulse wave process and a short process based on the detected presence or absence of a short circuit (see short circuit detector 82, pulse waveform arrangement 85, and short circuit waveform arrangement 87). The claims differ from Tabata et al. in calling for a "short clearing process" and in calling for particular circuit timing values in the dependent claims. These differences do not patentably distinguish over the prior art. It is considered obvious that the short circuit waveform of Tabata et al. will "clear" a short circuit, since the purpose of this waveform is to supply enough energy to the welding electrode to melt the electrode sufficiently to proceed to the pulsed arc mode. The particular timings of the dependent claims are considered to be obvious adjustments of the power supply of Tabata et al. for arbitrary welding conditions.

5.) Claims 2-4, 7-12, 19, 29-31, 34-39, 46, and 51-54 are objected to for depending from rejected parent claims, but would be given favorable consideration if suitably recast in independent form to include all of the limitations of the parent claims. None of the prior art of record teaches or suggests the particular welding processes set forth in the claims and none of the prior art of record teaches or suggests the power feedback (i.e., feedback based on sensed watts) as set forth in claims 11, 12, 38, and 39.

6.) Claims 20-23 are allowable over the prior art of record. None of the prior art of record teaches or suggests a power supply which switches between an STT weld process and a pulsed weld process in the manner claimed.

Any inquiry concerning this communication should be directed to Clifford C Shaw at telephone number 703-308-1712. The examiner can normally be reached on Monday through Friday of the first week of the pay period and on Tuesday through Friday of the second week of the pay period.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Thomas G. Dunn, can be reached at 703-308-3318. The fax phone numbers for

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the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Clifford C Shaw
Primary Examiner
Art Unit 1725

June 29, 2003